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DIFFERENCES IN SOCIAL CAPITAL BETWEEN 54 WESTERN EUROPEAN REGIONS

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ABSTRACT

Based on extant literature, we present a newly developed index measuring social capital at the regional level in Europe. We show that there are large regional differences on this social capital index. We test if higher scores on this social capital index correlate with higher levels of economic development and regional economic growth in 54 western European regions. Though further research is required, these preliminary results suggest a positive relationship exists between social capital and economic development. We conclude with suggestions for future empirical research.

KEYWORDS: social capital, trust, associational activity, Europe

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ABSTRACT

Based on extant literature, we present a newly developed index measuring social capital at the regional level in Europe. We show that there are large regional differences on this social capital index. We test if higher scores on this social capital index correlate with higher levels of economic development and regional economic growth in 54 western European regions. Though further research is required, these preliminary results suggest a positive relationship exists between social capital and economic development. We conclude with suggestions for future empirical research.

INTRODUCTION

The field of social capital has developed at an accelerating pace, across a broad front and currently engages scholars in many disciplines. The speed with which social scientists have jumped into the field of social capital can be illustrated by the amount of publications on the keyword ‘social capital’. Table 1 shows the number of hits when using Web of Science as a search engine for all English articles published in SSCI ranked journals the last ten years (since the influential publication of PUTNAM’s *Making Democracy Work* in 1993). As a point of reference we have chosen to include the publications on human capital as well. Acknowledging that human capital is a generally accepted concept far more than social capital resulting in a higher absolute amount of publications, it is clear that social capital has been - and to some extent still isⁱ – a hype in social science. From only 10 hits in 1994, the number of journal publications has skyrocketed to 223 in ten years. While the necessity of classifying and structuring this literature on social capital is perhaps greater than ever, at the same time this has become a

complex task carrying the risk that one can find oneself chasing a target that moves and multiplies at a pace that defies the capacity to catch up (cf. FINE, 2001, p. 5).

<Insert table 1 about here>

Still, a number of overview articles on social capital can be found. ADLER and KWON, 2002, provide an insightful overview of social capital at the firm level. DURLAUF and FAFCHAMPS, 2004, present a survey of social capital in economic growth and development, including the relatively early overview of WOOLCOCK, 1998. FINE, 2001, takes a critical political economy perspective on social capital. DURLAUF, 2002a, 2002b, has concentrated on the empirical studies on social capital and economic growth. A careful reading of the literature makes clear that the study of social capital extends to multiple levels of analysis. Whereas some researchers focus on the aggregate level of societies, nations and regions (FUKUYAMA, 1995; PUTNAM, 1993, 2000; KNACK AND KEEFER, 1997, ZAK AND KNACK, 2001), others have studied social capital at the level of the individual or the firm (COLEMAN 1988; GULATI, 1995; YLI-RENKO **et al.** 2001; TSAI 2000; TSAI and GHOSHAL, 1998). It is important to distinguish between these levels of analysis, as it has been shown that conflating these levels yields conceptual and methodological problems (BEUGELSDIJK, 2005).

Without doubt, the most influential contribution to the discussion on the relation between social capital and economic development is the publication of “Making democracy work” by PUTNAM, LEONARDI AND NANETTI in 1993. These authors study Italian regions and find that social capital matters in explaining regional differences in economic and institutional (government) performance. PUTNAM **et al.** (1993, p. 167) define social capital as those ‘features of social organisation, such as trust, norms, and

networks, that can improve the efficiency of society by facilitating co-ordinated actions'. According to the World Bank, social capital refers to the norms and networks that enable collective action. It refers to the institutions, relationships and norms that shape the quality and quantity of a society's social interactionsⁱⁱ. Hence, at the national or regional level, social capital is broadly perceived in terms of norms of cooperation. PUTNAM links trust with the density of associational membership in a society. According to him, trust and engagement are two facets of the same underlying factor, which is social capital. At the aggregate level social capital is reflected in degree of trust and density of associational activity. It is assumed to affect society as a whole.

Despite the obvious popularity and frequent use of the concept there is general lack of convergence, both in definitions, and in measurement. Measurements of social capital are made in rather ad hoc and pragmatic way. An effective reliable measure of social capital is still lacking, perhaps because of the multidimensional character of the concept. However, there seems to be some agreement on the main constituents of social capital. A basic component is, according to FUKUYAMA, 1995, trust. Although PUTNAM's definition of social capital is not very concise, in his view it takes the form of qualities of social relationships, e.g. trust, norms of reciprocity, and engagement in social networks.

Building on these core contributions we use an existing dataset to develop a social capital index at the regional (NUTS1) level in Europe, allowing us to test the relationship between regional economic success and social capital. The attractiveness of this social capital index is the fact that it is embedded in the conceptual literature discussed above, as its main components are trust and engagement in social networks. Ultimately, the goal of this paper is to provide empirical material, tests and suggestions for future research on the relationship between social capital and regional economic performance. More

specifically, we relate this newly developed social capital index to the level of economic development and regional economic growth in 54 western European regions. Before actually doing so, we first sketch the general background against which the social capital debate may be seen, and theorize on the components of social capital. Our preliminary empirical results suggest that a) there are significant regional differences in scores on our social capital index in Europe, and b) social capital is positively related to the level of economic development and growth at the regional level in Europe. We conclude with an agenda for future empirical research.

GENERAL BACKGROUND AND THEORY ON SOCIAL CAPITAL

Despite – or as a reaction to perhaps - the geographical turn in economics based on formal modelling (KRUGMAN, 1991, 1995)ⁱⁱⁱ, the institutionalist paradigm has been even more prominent on the agenda of economic geographers the last two decades. It is argued that the ‘economic life of firms and markets is *territorially* embedded in social and cultural relations and dependent upon processes of cognition (different forms of rationality), culture, social structure and politics’ (AMIN AND THRIFT, 1994, p. 16-17). According to some, there has been a change in paradigm when thinking about regional development policy (KEATING, 1998). The old paradigm, which guided policy between the 50s and 80s, was based on the state and interventionist measures directed from the central state. The main motor of development was large scale manufacturing industry, which through its multiplier effects was to serve as a growth pole. New thinking about regional development policy focuses more on regional endogenous growth, like R&D and innovation and entrepreneurship, rather than on investment, which tends to be too mobile and volatile to form a firm basis for explanation. Generally, the policy has shifted

towards the development of conditions for innovation and growth, thereby focusing on key sectors, clusters and the encouragement of institutional co-operation and networking. Typical instruments of this 'new' policy include research parks, technology transfer institutions and public-private partnerships.

Institutions and culture are of crucial importance in the new models of regional development, because it is argued that they can provide public goods, foster social communication, and promote co-operative behaviour. A characteristic form of institution in this respect is the regional development agency, operating at arm's length from the government and in close co-operation with private actors. It is argued that well-performing regions are the nexus of dense networks of associations and groups, providing public goods and information channels and working through co-operation rather than hierarchical command. The 'institutional thickness' has been identified as a key factor in development (AMIN AND THRIFT, 1994). This fits PUTNAM's (1993) thesis that the extent of associational life is important in the explanation of regional economic differences in Italian regions. Civic associations, chambers of commerce, business promotion groups, they all can facilitate communication and foster shared norms. However, as KEATING (1998, p. 147) also remarks, not all associations have a positive effect. Associations may represent rent-seeking by groups within the local society, or efforts to defend locally-entrenched sectors against modernization and change (See also OLSON, 1982 and KNACK AND KEEFER, 1997).

As a result of the above paradigmatic developments, the literature on regional development has increasingly turned from economic explanations (e.g. product specialization and traditional Marshallian agglomeration factors) to social and cultural explanations, like social consensus, intense levels of inter-firm cooperation, and innovative environments. According to AMIN AND THRIFT, 1994, the recognition of

socio-cultural aspects has, in turn, given renewed impetus to the study of territorial embeddedness as found in the literature on industrial districts and regional clusters. This socio-cultural turn is however not without criticism. Building on what they call the three classics in regional clustering, i.e. Silicon Valley, Baden-Wurttemberg and 'Third Italy', HOSPERS AND BEUGELSDIJK, 2002, argue that an intriguing paradox can be observed in today's regional economic policy making. Whereas unique local factors are increasingly seen as the determinants of regional economic success, simultaneously more and more governments try to copy policy experiences that proved to be successful in a particular region. Stressing the socio-cultural factors too much when explaining (regional) development may lead to cultural determinism. Nevertheless, the central argument is that nowadays within economic geography there is an increased interest in socio-cultural factors contributing to or limiting regional economic development. And one of these 'soft' factors is social capital. The question arises how social capital, more specifically trust and engagement in social networks may contribute to economic development.

Trust

An extensive literature on trust exists. Numerous approaches to and definitions of trust corresponding with the associated underlying disciplines exist, *in casu* economics, psychology, and sociology, and even within disciplines different views exist (ROUSSEAU **et al.** 1998). Generally speaking, the concept of trust may be framed as an expectation of partner's reliability with regard to his obligations, predictability of behaviour, and fairness in actions and negotiations while faced with the possibility to behave opportunistically (ZAHEER **et al.**, 1998). Although it is beyond the scope of this

paper to extensively discuss the ‘theory of trust’, a brief discussion is necessary for the sake of our argument.

Broadly speaking there are two streams of research in economics that study the sources and consequences of trust. As already mentioned, there is a recent trend to study trust at the aggregate level in relation to economic success of nations or regions. A core element in these approaches is the concept of (generalised) reciprocity (GAMBETTA, 1988). PUTNAM, 1993, 2000 phrased this in a more popular way, by arguing that ‘a society that relies on generalized reciprocity is more efficient than a distrustful society, for the same reason that money is more efficient than barter. Honesty and trust lubricate the inevitable frictions of social life’ (PUTNAM, 2000, p. 135). And ‘when each of us can relax her guard a little’, transaction costs are reduced (FUKUYAMA, 1995).

Parallel to this literature there is an even more extensive stream of research on the causes and consequences of trust at the individual (firm) level (RING and VAN DE VEN, 1992; LANE AND BACHMAN, 1998; NOOTEBOOM, 2002). At this individual level, trust is regarded as a property of individuals or characteristic of interpersonal relationships. It is assumed to reduce uncertainty, facilitate communication and increase flexibility (UZZI, 1996, SAKO, 1992, MALECKI, 2000).

In general the economic function of trust refers to the reduction of transaction costs and its influence on promoting co-operation and reducing the need (costs) for intervention to prevent or correct dishonesty. But also from a sociological point of view, trust has several functions. Especially PARSONS’, 1969 study and LUHMANN’s, 1979 study are important in this respect. PARSONS places trust in the center of the construction of social order. In his view, a common value system based on widely shared norms and values, stabilizes interactions in a social system. Trust is grounded in pre-existing consensus and is a product of an effective integration of norms and values. Trust

fulfils an integrative function in the establishment of social order. The second function of trust in sociological thinking has been put forward by LUHMANN in 1979. He views trust as a social mechanism that reduces complexity and enables individuals to deal with the complexity and contingency of modern life. This corresponds with WILLIAMSON's, 1985 argument that exchange relations that feature personal trust will survive greater stress and will display greater adaptability.

Group membership

Theories on how embeddedness in social networks may affect economic outcomes are less developed compared to the existing insights on trust^{iv}. PUTNAM **et al.** (1993) argue that network relationships improve the efficiency of society by facilitating coordinated actions. In their study on Italian regions they claim to have shown that a critical factor in explaining effectiveness of regional governments and regional economic performance is to be found in differences in traditions of civic engagement and the structure of the civic networks. In regions where social relationships are more horizontal, based on trust and shared values, participation in social organizations is higher and social capital is higher. Subsequently, regions with high levels of social capital have higher economic performance and more effective regional governments. The reason Putnam **et al.** specifically study the degree of civic community membership is that 'Citizens in a civic community, though not selfless saints, regard the public domain as more than a battleground for pursuing personal interest' (PUTNAM **et al.**, 1993, p. 88). In this way fewer resources are used incurring transaction costs.

The second function of associational activity is closely related to the theory of networks and the advantages of being embedded in networks. There are two theoretical

approaches for understanding how social relations and networks create economic and social benefits (GARGIULO AND BENASSI 2000; UZZI 1999). The weak-tie approach argues that a large network of arm's-length ties is most advantageous. On the other hand there is the strong-tie approach claiming that a closed tightly knit network of embedded ties is most advantageous. This corresponds with the two opposite views in literature on the optimal structure of networks. Whereas COLEMAN, 1990 argues that closed networks may provide a better basis for co-operation, BURT, 1992, stresses cohesive ties as a source of rigidity. However, in both cases the core of the argument relates to the transfer of knowledge between actors. In Burt's concept, structural holes are important sources of new information. A fundamental idea that inspired Burt's structural-hole theory is Granovetter's description of the "strength of weak ties" (GRANOVETTER 1973). He reasoned that access to new information is obtained through an ego's weak ties to nodes at a distance from his own local network. The reasoning is that information within the local network is widely shared locally, hence most of the local contacts are redundant. New information comes from non-redundant ties. Though Coleman's closed network approach seems to be opposite to Burt's view of structural holes (open networks), Coleman states that exactly the closure of the network and the embeddedness of the actors provide opportunities to obtain information that otherwise would be impossible or too expensive to obtain. In both views, embeddedness in networks creates advantages like increased sources of information, and obtaining information that is not easily available (spillover effects).

The above discussion of trust and networks suggests the effects of these two theoretical concepts can be conceptually separated. This is however not the case. As PUTNAM, 1993 writes himself, 'Social networks allow trust to become transitive and spread: I trust you, because I trust her and she assures me that she trusts you' (1993, p.

169). Hence, trust lubricates cooperation. And cooperation itself breeds trust. People who trust others are generally more engaged in civic life and build more social capital than the people who distrust. These observations lead PUTNAM to conclude that the causal arrows among civic involvement and trust are as ‘tangled as well-tossed spaghetti’ (PUTNAM, 2000, p. 137).

MEASUREMENT OF SOCIAL CAPITAL

The lack of data, and perhaps even more important the lack of consensus on appropriate measures has limited the number of empirical studies on social capital and economic development compared to the number of conceptual papers (DURLAUF AND FAFCHAMPS, 2004). A seminal empirical contribution has been KNACK AND KEEFER’s 1997 study on the economic payoff of social capital in a sample of 29 market economies. In their empirical analysis, they mainly concentrate on the role of trust. Trust is measured by the World Value Survey (WVS) question: ‘Generally speaking, would you say that most people can be trusted, or that you cannot be too careful in dealing with people?’, of which the answer is a binomial choice between ‘most people can be trusted’ and ‘can’t be too careful’. Trust is then measured as the percentage of respondents in each country that replied ‘most people can be trusted’. The empirical results of KNACK AND KEEFER point at a statistically significant effect of trust on growth. They state that ‘the coefficient for trust [...] indicates that a ten percentage point rise in that variable is associated with an increase in growth of four-fifths of a percentage point’ (Knack and Keefer, 1997, p. 1260). In a follow-up analysis ZAK AND KNACK, 2001 extend the analysis by adding 12 – mostly less developed - countries to the sample of KNACK AND KEEFER. They also conclude that trust - again measured by the ‘generally speaking’

question - has a positive and significant impact on economic growth. Though not without discussion (GLAESER **et al.**, 2000), the 'generally speaking' question can be considered one of the most well known proxies for social capital. Other empirical studies on social capital and national or regional economic performance have both used the trust measure and participation in associations (BEUGELSDIJK AND VAN SCHAIK, 2005, HELLIWELL, 1996).

In developing our index for social capital we have built upon the existing empirical literature mentioned above. Our social capital index consists of trust and civic engagement. The fact that we have data on social capital at the European regional level allows us to empirically test the relationship between social capital and regional economic outcomes, like growth and development. The data on trust and civic engagement are taken from the European Value Studies (EVS), which is a large-scale, cross-national, survey research program on basic human values, initiated by the European Value Systems Study Group (EVSSG) in the late 1970s^v. The EVS aimed at designing and conducting a major empirical study of the moral and social values underlying European social and political institutions and governing conduct. The EVS project was designed to empirically explore the patterns and changes in cross-national/regional differences and similarities in basic social values in Europe. To achieve this, surveys were carried out using uniformly structured questionnaires, enabling generalizations and comparisons. The first wave of surveys was conducted in 1981 in nine west European countries. A second wave was organized in 1990, and a third wave in 1999. In all countries, surveys were carried out by experienced professional survey organizations. Surveys were performed through face-to-face interviews among representative samples of 18 years and older. Guidelines for the survey were provided by the coordinating organisation at Tilburg University, the Netherlands, and in order to get standardized

information in the various countries, the national representatives had to complete a methodological questionnaire, including detailed information on translation of the questionnaire, fieldwork, sampling, and the inclusion of optional and country-specific questions. For the purpose of our analysis of social capital we use information of the 1990 wave. Acknowledging it would be even better if we could relate regional social capital scores in 1960 or 1970 to subsequent economic success, data limitations do not allow us to do so.

The data we use include regions belonging to 7 countries: France, Italy, Germany, Spain, The Netherlands, Belgium, and the United Kingdom. In order to allow for a comparison with economic outcomes we used the Eurostat NUTS1 definition of regions. This implies that France consists of 8 regions, Italy 11, Germany 11 (former eastern regions excluded), Spain 7, The Netherlands 4, Belgium 3, and Great Britain 10 (including Scotland, excluding Northern Ireland). The total number of regions for which we have social capital proxies equals 54 (see figure 1). The numbers of the European regions are defined in Table 2.

<Insert figure 1 about here>

<Insert table 2 about here>

Following existing empirical studies like those of ZAK and KNACK, 2001, and KNACK AND KEEFER, 1997, the question we use to assess the level of trust in a society is the ‘generally speaking’ question. For our sample of 54 regions we have obtained scores on trust. These scores range from 5.5% of the respondents answering that most people can be trusted in Sardegna in Southern Italy to 64.6% in the eastern part of the Netherlands.

Note that this measure reflects general trust, and does not specifically refer to more narrow groups like for example the (extended) family. This may explain the relatively low score on trust in Southern Italy where trust is primarily embedded in family ties. In figure 2 the scores on percentage of people answering that most people can be trusted are shown.

<Insert figure 2 about here>

As can be seen in figure 2, there are considerable differences in the regional scores on trust within Europe. At the country level, it can be observed that for example The Netherlands are rather homogeneous in terms of trust, but regions in Italy differ a lot, suggesting that PUTNAM **et al.** (1993) seemed right, when describing the differences between the Northern and the Southern Italian regions. While some researchers have suggested that religion, especially Protestantism, correlates positively with trust (e.g., INGLEHART, 1990; KNACK and KEEFER, 1997, p. 1283), our regional analysis does not support this view. Traditional Catholic regions in the South of the Netherlands, Flanders, Madrid and the North of Italy all fall in the group of regions that have the highest scores on trust (0.447-0.646) (see figure 2).

Besides interest in general trust, PUTNAM **et al.** (1993) explicitly studied memberships of clubs and associations. They suggested that dense networks positively affect the level of trust and citizenship. As mentioned earlier, social capital is often perceived in terms of networks and being member of such a group or network. Similar to KNACK AND KEEFER, 1997 we measure the average number of groups cited per respondent in each region. However, by doing so, the level of involvement is not measured, which may reduce the validity of this measure of social capital. The

hypothesized benefits of network embeddedness may not be captured when taking passive membership of groups and associations. Therefore, we have decided to measure active membership of a number of associations next to our measure of passive membership. The question we use to measure group membership, is stated as follows: ‘which, if any do you belong to?’. The categories are a broad range of associations from social welfare services for elderly handicapped or deprived people to animal rights associations and trade unions. We refer to the appendix for a complete overview of the associations included. The associations are the same for our measures of passive and active group membership. The only difference between the two is that in case of active membership respondents are not only a member but also do voluntary work for the particular association. The regional scores are obtained by taking the average score per region of respondents answering yes to the question if they are member and/or do voluntary work for a particular association. Figure 3 provides a geographical distribution of the scores on active membership.

<Insert figure 3 about here>

As mentioned before, trust and (passive and active) group membership are the core components of social capital. An attractive measurement strategy combines all aspects. Following standard psychometric procedure, we do so in two steps (NUNNALLY 1978). First, we factor analyze the variables. If the variables possess substantial common variance, one factor will be retained which will a) explain most of the variance in the set of variables, and b) be composed of a linear combination of the original variables wherein each variable has a high weight (and its weight is of the theoretically correct sign). Applying factor analysis on the three variables trust, passive group membership,

and active group membership yields one underlying dimension suggesting these three variables are indeed elements of a broader underlying concept. Table 3 presents the factor loadings. A related assessment of the degree to which these (in this case three) variables triangulate in on a common construct is done by calculating the reliability or internal consistency. As a reliability test of this new construct we calculated Cronbach's alpha, which is an index ranging from 0 to 1 with higher values indicating a more stable and reliable estimate of a common construct among the variables. Calculation yields a score of .67, which meets NUNNALLY's criterion for this type of research.

<Insert table 3 about here>

The new social capital index encompasses all three elements that have theoretically been proposed as core elements of social capital. Using the factor loadings we have calculated the social capital index for our sample of 54 European regions. Table 2 presents the scores of the social capital index. For reasons of convenience we have re-scaled the factor scores on a 0-100 scale. It is important to note that these scores are generated for the sample of European regions, and a low (or high) score should therefore not be interpreted in an absolute way. Moreover, as it is based on different sources of data, caution is required when comparing these scores for Italy with the scores obtained by Putnam. We use this social capital index in the remainder of this paper and test its (cor-) relation with economic growth and development.

SOCIAL CAPITAL AND REGIONAL ECONOMIC SUCCESS

Although a true test of whether Putnam's thesis on social capital (in Italian regions) can be generalized requires a more extensive empirical framework and data, we do believe that our analysis may contribute to the question of generalization of his thesis. Before actually relating social capital to economic growth, we first present a basic plot in which we correlate social capital to level of economic development, measured by gross regional product per capita. As our social capital data refer to 1990, we use GRP per capita in 1990. All economic data in this paper come from the European Statistical office, Eurostat, unless mentioned otherwise. Figure 4 relates GRP per capita to our social capital index.

<insert figure 4 about here>

For reasons of readability we have chosen not to include all NUTS1 codes in figure 4. The correlation between GRP per capita and social capital is .26 at a significance level of .06. As figure 4 suggests, the two Dutch regions (NL2 and NL3) are outliers. Excluding these two regions, the correlation increases significantly to .36 with a corresponding significance level of .009.

In addition to the comparison of levels, it is interesting to explore the relationship between social capital and regional economic growth. We closely follow BARRO AND SALA-I-MARTIN, 1995, who explain regional growth differentials in Europe between 1950 and 1990. As we have more recent economic data, we analyze the period 1950-

1998. Similar to BARRO AND SALA-I-MARTIN, 1995, we have computed regional growth differentials by relating the regional GDP per capita information to the country mean. There are several reasons to use the country mean as a correction factor. First of all we do not have regional price data. Second, the 1950 figures on regional GDP are provided in an index form that is not comparable across countries. An additional advantage of using relative data versus non-relative data is the direct control for national growth rates that might bias regional growth rates. Hence, we have used Gross Regional Product (GRP) figures that are expressed as deviations from the means from the respective countries. The 1950 data are based on MOLLE *et al.* 1980, whereas the data for Spain refer to 1955 and are based on BARRO AND SALA-I-MARTIN, 1995 calculations. As it has been shown to be important to control for initial level of GRP per capita we have chosen to plot the partial regression plot of regional economic growth between 1950-1998, thereby controlling for possible convergence effects (which may bias the relationship between the variables of interest) (MARTIN AND SUNLEY, 1998). Evidently, this approach is only a preliminary test and a complete growth model would include all kinds of growth-related variables, like regional investment, human capital, spatial spillovers and controls for spatial autocorrelation. Figure 5 presents the results of the partial regression plot.

<Insert figure 5 about here>

The results of the partial regression plot indicate that controlling for initial level of GRP per capita, social capital is significantly and positively (t -value = 2.0) related to regional economic growth in the sample of 54 western European regions. Similar analyses for

shorter periods of growth 1984-1998, or 1990-1998 suggest this positive and significant relationship is robust.

CONCLUSION AND FUTURE RESEARCH

In this paper we started arguing that the current popularity of the concept of social capital has resulted in a need for theoretical and empirical clarity. Not only there are paradigmatic differences in the conceptualization of social capital in economics and sociology, it is also important to distinguish between levels of analyses. In this paper we have concentrated on the measurement of social capital at the regional level, and the relationship between social capital and regional economic development and growth. Following the existing literature, arguing that trust and social networks are key components of the broader concept of social capital, we theorized on the economic consequences of social capital. Given this theoretical framework, we have used an existing database, the European Value Studies (EVS), to develop a social capital index. We showed that there are significant regional differences in social capital between European regions and more important, we showed that there is a positive and significant relationship between social capital and economic performance in a sample of 54 Western European regions.

A true test of the PUTNAM hypothesis requires a more extensive econometric test. However, a number of methodological pitfalls in the econometric analysis of social capital exist, and it is important to take these into account in future research (DURLAUF AND FAFCHAMPS, 2004, DURLAUF 2002b). First of all there is the issue of endogeneity. Does social capital lead to economic growth, or does prosperity give rise to increased levels of (certain types of) associational activity? Or is there maybe a third

‘omitted’ variable, like social or demographic structure? Though PUTNAM is often criticized for having an oversimplified view on the role of culture, he himself writes that ‘any single-factor interpretation is surely wrong’ (PUTNAM, 1993, p. 159) and there is ‘no cause and effect but a dialectic process of reciprocation’ (PUTNAM, 1993, p. 161).

Secondly it is important to control for country and region specific effects. Just to give one example, only using membership of social networks as a proxy for social capital may imply validity problems, given that for example membership in a certain type of civic association in one country may be obliged by law, and in other countries not. In other words, (types of) civic engagement may be locally specific in some cases and it is important to take that into account. Moreover, as we mentioned in the introduction of our paper, there is an extensive literature on the role of regional institutions in regional development. Ignoring these factors in the study of social capital may entail a risk of cultural determinism.

Thirdly, literature suggests there may be different types of social capital. In a more recent work PUTNAM, 2000, distinguishes what he calls ‘bridging social capital’ in which bonds of connectedness are formed across diverse social groups, and ‘bonding social capital’ that cements only homogenous groups. Though data availability has not allowed us to make this distinction, it may be worthwhile to try to do so in future research.

Fourthly, the validity of the ‘generally speaking’ trust question used by many scholars including ourselves, has been questioned (GLAESER *et al.*, 2000). These authors claim to have shown that this trust question measures trustworthiness and not trust. Moreover, the issue of international comparison of these trust scores may be important, as it has been shown that types and sources of trust differ between well

functioning institutional settings and poor functioning institutional environments (DANIELSON AND HOLM, 2003; NOOTEBOOM, 2002).

Finally, despite the extensive literature on social capital, no clear policy implications have yet emerged. As long as we do not know more about the nature of the theoretical links between social capital and economic development, we feel it is too premature to provide clear policy implications. Acknowledging the potential danger of providing a social capital index for a sample of European regions, we strongly believe that large-scale statistical tests of the role of social capital are not the only way forward. It may definitely help us in our analytical process of understanding the broader picture, but especially for policy makers it is important that these econometric approaches should be complemented with in-depth case studies allowing for a richer picture of the role of social capital in economic development.

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Table 1: Popularity of social capital

Timespan	# hits on social capital	# hits on human capital
1994	10	134
1995	22	125
1996	25	181
1997	53	187
1998	89	169
1999	102	201
2000	113	231
2001	170	257
2002	182	225
2003	217	301
2004	223	314
2005*	139	153

Note: results were obtained after search for ‘social capital’ in the Social Science Citation Index (SSCI) through Web of Science. Search was limited to English language articles.

* January-May 2005

Figure 1: Map of European regions

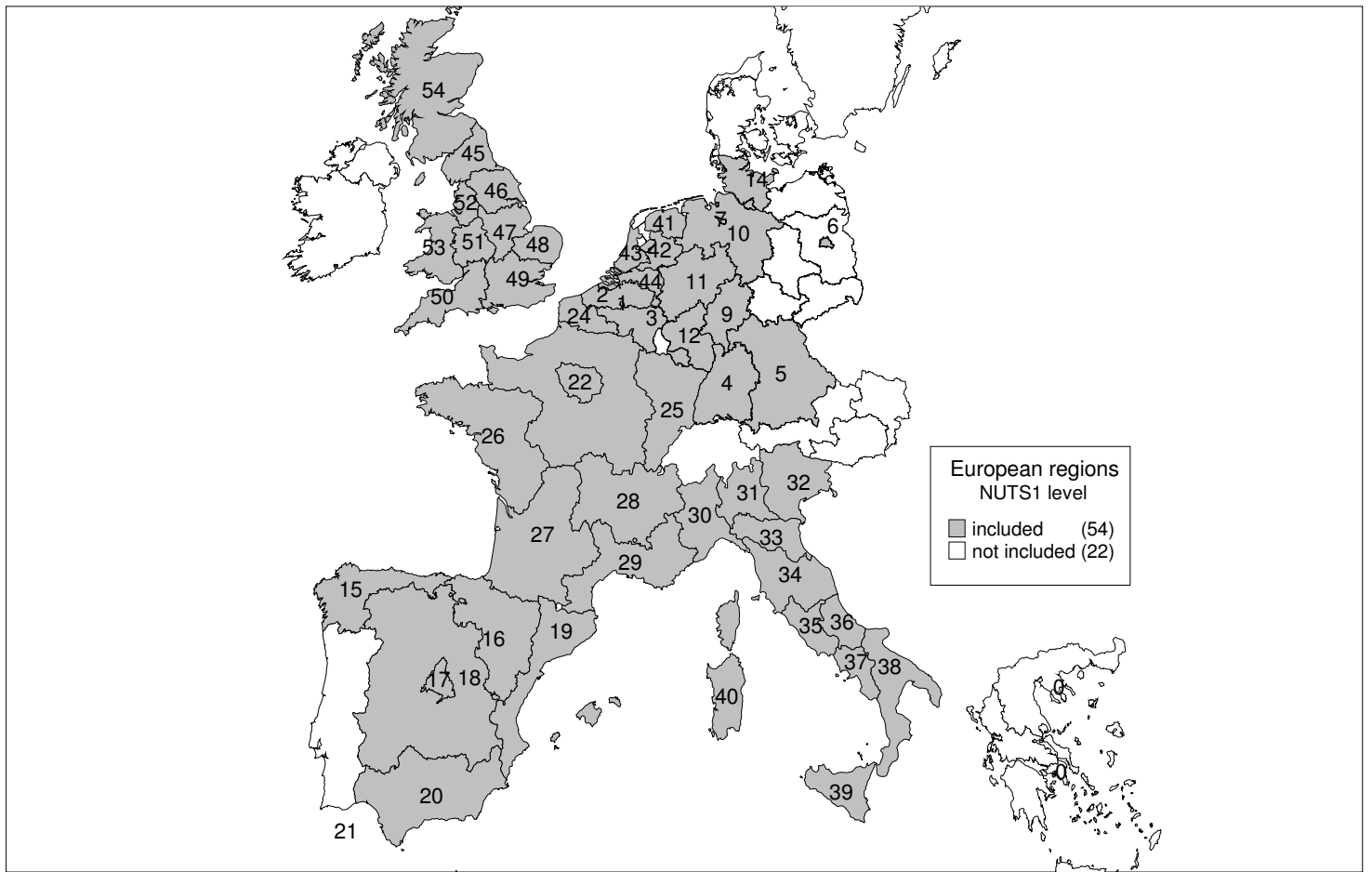


Table 2: Social capital index

Number	Region	NUTS1 code	Social capital index
1	Reg. Bruxelles-Cap	BE1	44.76
2	Vlaanderen	BE2	61.20
3	Wallonie	BE3	36.09
4	Baden-Württemberg	DE1	52.02
5	Bayern	DE2	40.15
6	Berlin	DE3	41.46
7	Bremen	DE5	50.03
8	Hamburg	DE6	33.38
9	Hessen	DE7	42.04
10	Niedersachsen	DE9	43.49
11	Nordrhein-Westfalen	DEA	41.17
12	Rheinland-Pfalz	DEB	49.01
13	Saarland	DEC	51.39
14	Schleswig-Holstein	DEF	40.18
15	Noroeste	ES1	10.92
16	Noreste	ES2	48.74
17	Madrid	ES3	14.80
18	Centro	ES4	16.46
19	Este	ES5	14.50
20	Sur	ES6	12.70
21	Canarias	ES7	23.71
22	Ile-de-France	FR1	35.56
23	Bassin Parisien	FR2	17.26
24	Nord Pas de Calais	FR3	33.22
25	Est	FR4	21.83
26	Ouest	FR5	33.51
27	Sud-ouest	FR6	26.61
28	Centre-Est	FR7	37.25
29	Méditerranée	FR8	16.36
30	Nord Ovest	IT1	27.40
31	Lombardia	IT2	21.11
32	Nord Est	IT3	41.75
33	Emilia Romagna	IT4	27.11
34	Centro	IT5	26.95
35	Lazio	IT6	15.72
36	Ambruzzo-Molise	IT7	18.38
37	Campania	IT8	9.19
38	Sud	IT9	36.49
39	Sicilia	ITA	34.22
40	Sardegna	ITB	0
41	Noord Nederland	NL1	60.04
42	Oost Nederland	NL2	100
43	West nederland	NL3	90.71
44	Zuid Nederland	NL4	46.64
45	North	UK1	6.56
46	Yorkshire and Humberside	UK2	38.72
47	East Midlands	UK3	63.79
48	East Anglia	UK4	41.91
49	South East	UK5	55.32
50	South West	UK6	51.74
51	West Midlands	UK7	26.58
52	North West	UK8	37.92
53	Wales	UK9	33.18
54	Scotland	UKA	37.60

Source: own calculations

Table 3: Results of the factor analysis

Trust	.49
Passive group membership	.75
Active group membership	.89

Figure 2: Trust scores at NUTS1 level in Europe

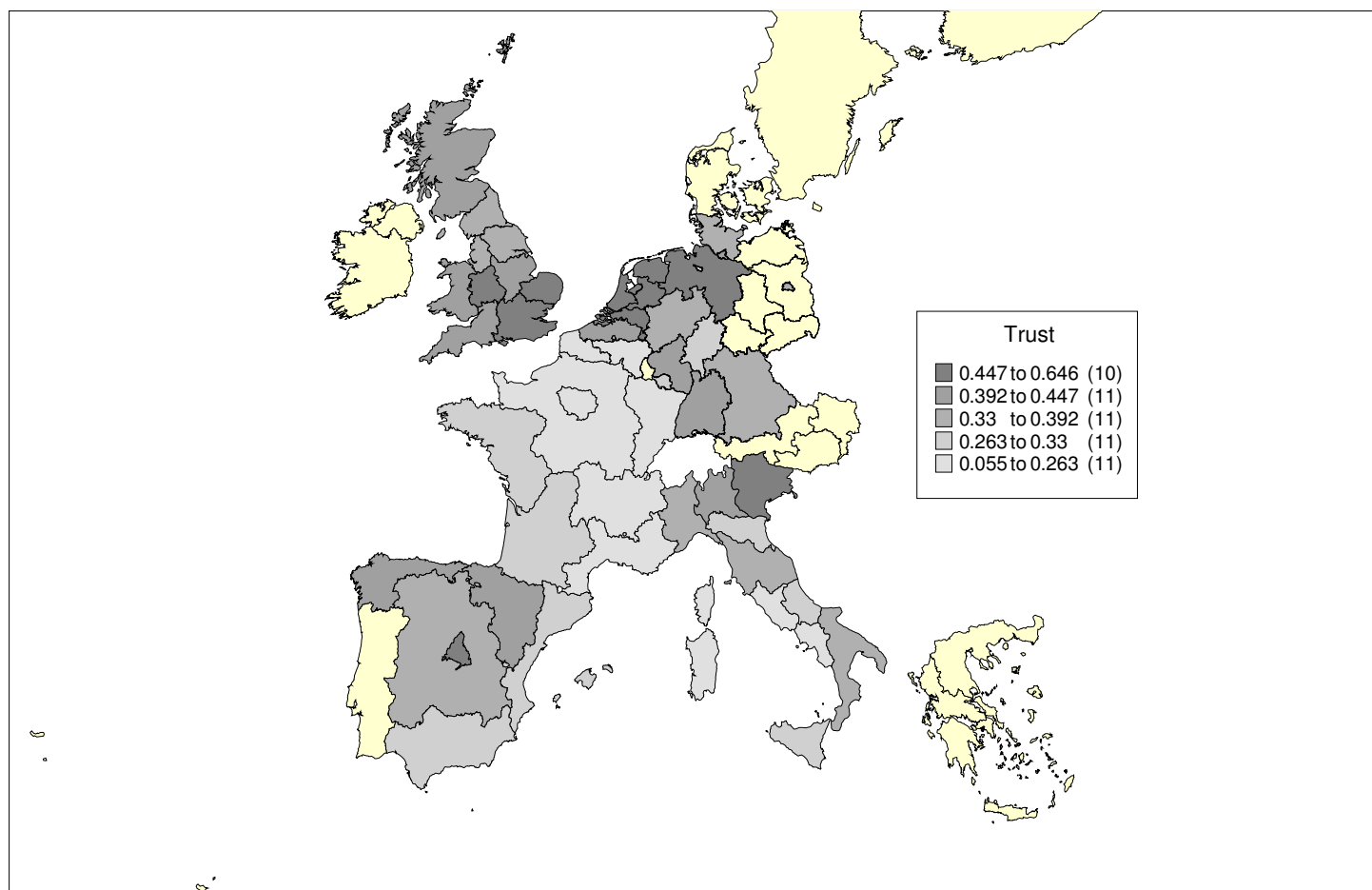


Figure 3: Regional distribution of active group membership in Europe

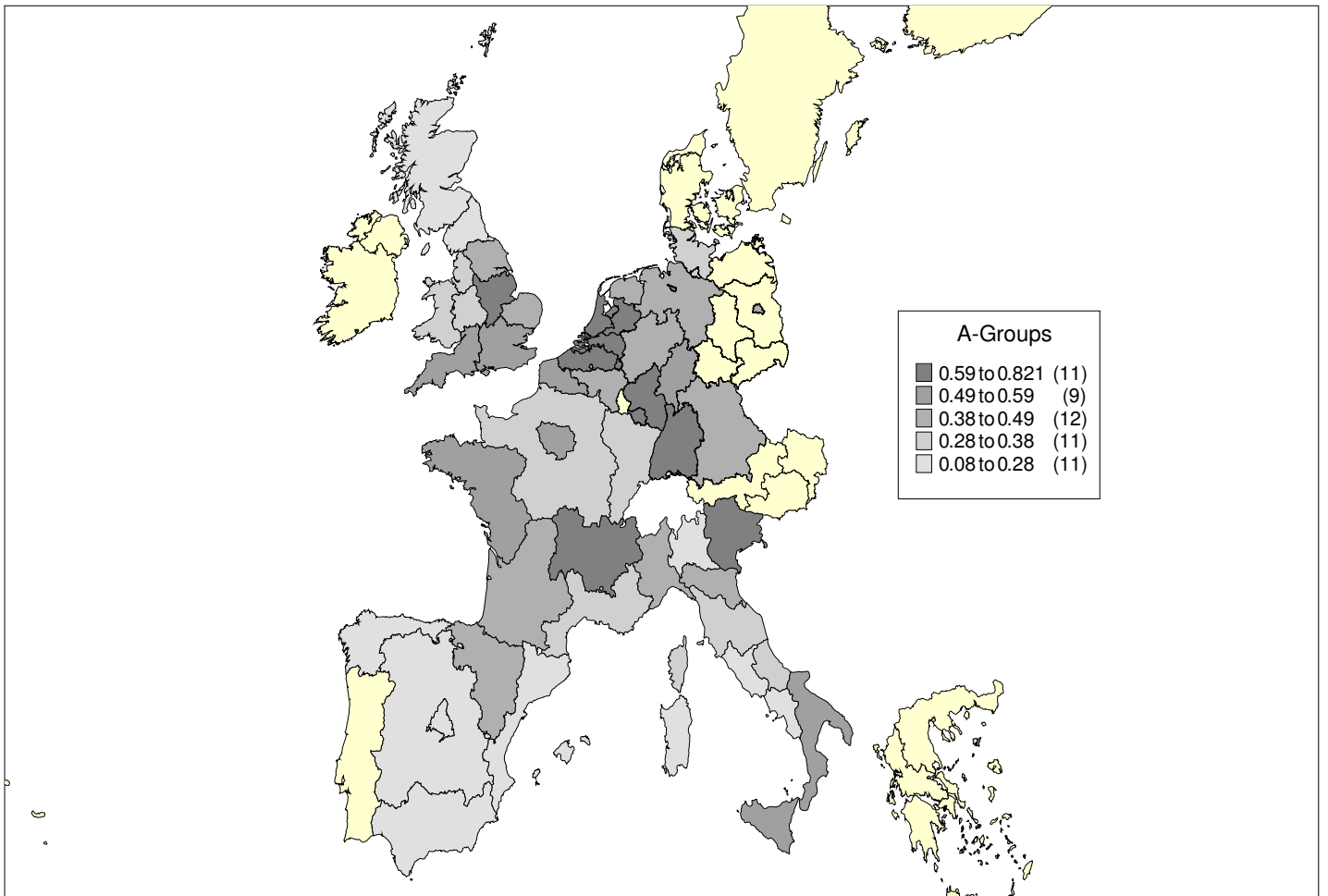


Figure 4: Relationship between social capital and GRP per capita in 1990

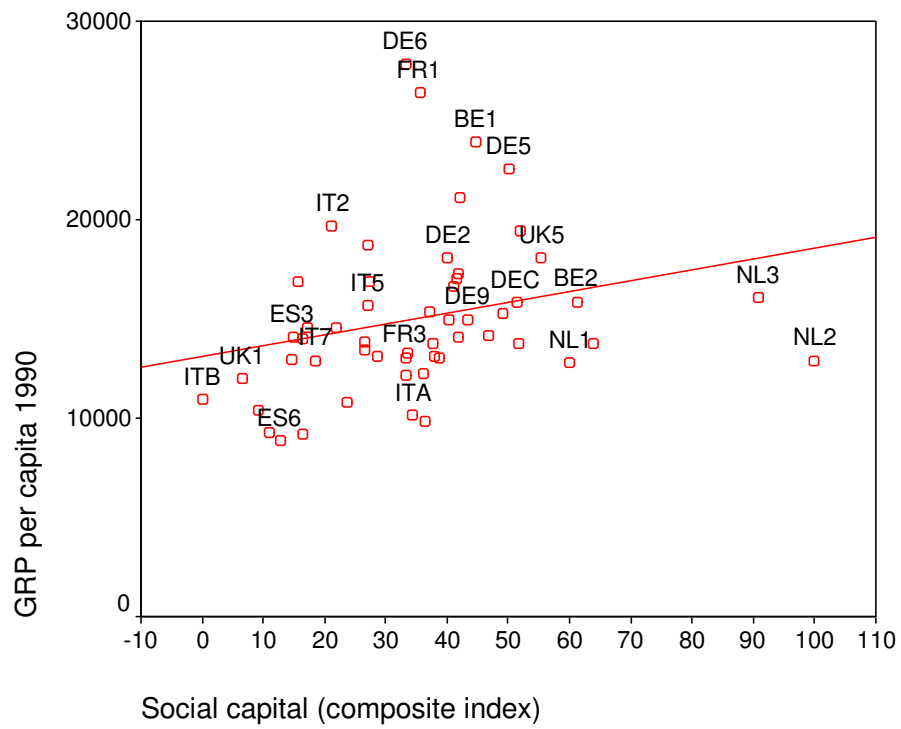
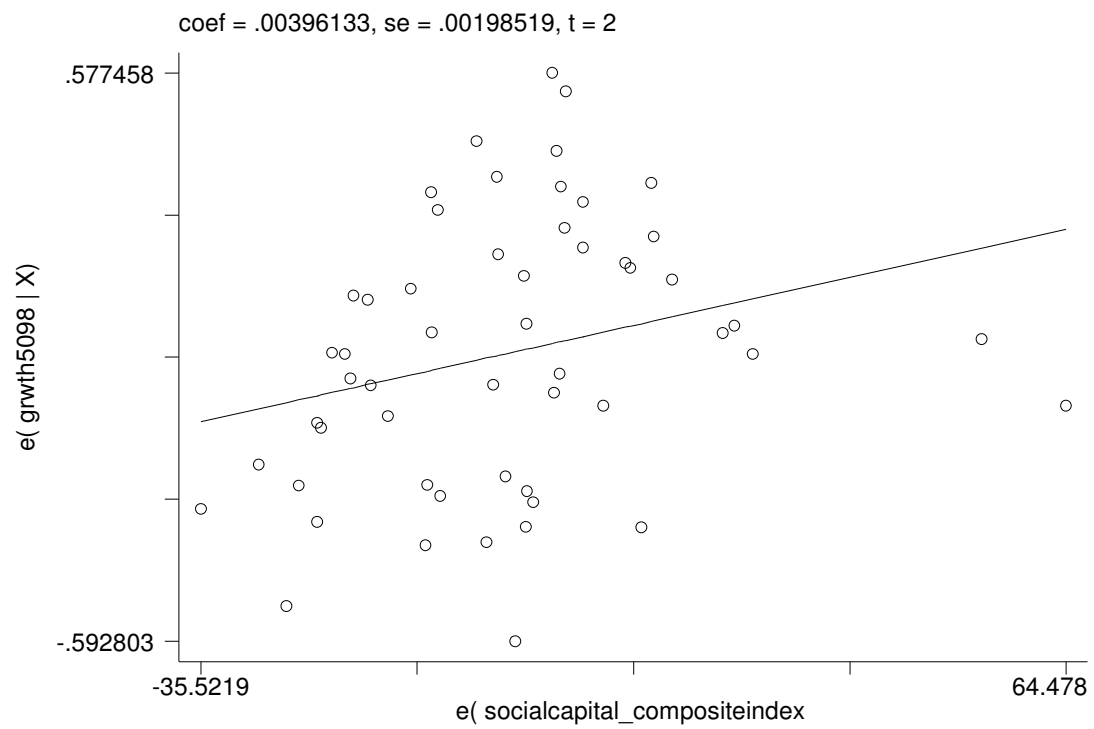


Figure 5: Partial regression plot of regional economic growth 1950-1998 and social capital, controlling for initial level of GRP per capita 1950



Appendix: List of associations

The categories are:

- a) Social welfare services for elderly handicapped or deprived people
- b) Religious or church organizations
- c) Education, arts, music or cultural activities
- d) Trade unions
- e) Political parties or groups
- f) Local community action
- g) Third world development or human rights
- h) Conservation, the environment, ecology
- i) Professional associations
- j) Youth work
- k) Sports or recreation
- l) Women's groups
- m) Peace movement
- n) Animal rights
- o) Voluntary organizations concerned with health

NOTES

ⁱ When preparing this manuscript, the number of hits on social capital in 2005 equals 139 (June, 6 2005).

ⁱⁱ See <http://www.worldbank.org/poverty/scapital/>

ⁱⁱⁱ It goes too far to discuss all the works of Krugman and others that contributed to the new economic geography. Martin (1999) is an excellent (critical) overview.

^{iv} The lack of a strong theoretical framework is a recurring theme among critics of Putnam's thesis. See e.g. DURLAUF, 2002c, BOGGS, 2001, JACKMAN AND MILLER, 1996, TARROW, 1996.

^v For more background information on the origin of the project, the different organisations involved, and the procedure to define the survey questions that were used in the final survey, we refer to the website of the EVS, www.uvt.nl/evs.